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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,021	06/25/2004	Jixiong Dong	9896-000023/US/NP	2768
27572 7590 05/21/2009 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				
EXAMINER				
CHRISS, ANDREW W				
ART UNIT		PAPER NUMBER		
2416				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,021

Applicant(s)

DONG, JIXIONG

Examiner

Andrew Chriss

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 22, 2009 has been entered.

Response to Amendment

2. Applicant's amendment, filed April 22, 2009, has been entered and carefully considered. Claims 1, 3, and 8 are amended, Claims 2, 4, 6, 10, and 11 are canceled, and Claims 1, 3, 5, and 7-9 are currently pending.
3. Objection to Claims 1 and 8 is withdrawn in light of Applicant's amendment to said claims.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 1 and 3** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. **Regarding Claim 1**, the claimed method is not tied to a particular machine or apparatus and does not transform a particular article to a different state or thing. Specifically, the steps of dividing, defining, mapping, and determining are not explicitly

or inherently tied to a machine and therefore could be performed by a human being (e.g., by physically connecting an input protection bus to an output protection bus). See *In re Bilski*, 545 F.3d 943, 88 USPQ2d 1385 (Fed. Cir. 2008). **Claim 3** depends on Claim 1 and fails to resolve the deficiencies therein.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1, 3, 5, and 7-9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language in independent claims 1 and 8 recites “dividing each optical port of each of the nodes in the fiber path into multiple minimum protection units.” However, assuming a minimum protection unit can be interpreted to comprise a VC-4 or VC-3 (i.e., virtual containers), as claimed in Claim 5, it is unclear how the optical port is actually divided into minimum protection units. For examination purposes, Examiner assumes that traffic sent via an optical port is divided into minimum protection unit. Claims 3, 5, 7, and 9 are rejected due to their dependence on Claim 1.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1, 3, 5, 8 and 9** are rejected under 35 U.S.C. 102(b) as being anticipated by Taniguchi (United States Patent 6,122,250).

Regarding Claim 1, Taniguchi discloses dividing traffic into multiple minimum protection units (i.e., virtual containers; see Figure 33 and column 4, lines 57-67), defining a plurality of logic-systems comprising nodes and fiber between the nodes connected in a ring formation (Figure 32), mapping the virtual containers to the logic systems (i.e., sending a virtual container via the nodes in the ring (column 4, line 57 - column 5, line 21). Further, Taniguchi discloses automatic protection switching (Figure 32), wherein a determination is made as to whether protection is needed for the traffic carried in the ring due to a fault (column 4, lines 35-44). The node can be configured as a passing mode, where the input bus on the protection ring is connected to the output protection bus (Figure 32, (c) full pass through); switching mode, where the input working bus is connected to the output protection bus (Figure 32, (b) switching), and a bridging mode wherein the input protection bus is connected to an output working bus (Figure 32 (a) bridge). **Claim 8** comprises substantially the same limitations as Claim 1, claimed as a device. Taniguchi further discloses each node comprising a controller unit (MP) and a switching unit (Figures 5 and 7) performing the method above (column 12, line 66 – column 13, line 51).

Regarding Claim 3, Taniguchi discloses configuring the node via a squelching operation in response to a received message (i.e., one of a working page, switching page, bridging page, or passing page), such as a received alarm indicator signal (Figures 34, 35A, 35B; column 5, lines 49-60) or the K byte of an automatic protection switching datagram (column 5, lines 8-21).

Regarding Claim 5, Taniguchi discloses VC3 virtual containers (Figure 33 and column 4, lines 57-67).

Regarding Claim 9, Taniguchi discloses working pages, passing pages, bridging pages, and switching pages as described with regard to Claim 3 above.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi in view of Russell et al (United States Patent 6,917,630), hereinafter Russell. Taniguchi discloses all of the limitations of Claim 1, as described above. However, Taniguchi does not disclose adjusting a crossing services which are sent to the same minimum protection unit into different minimum protection units by a time-division cross-connect unit in the transmission system. In the same field of endeavor, Russell discloses a protection switching system, wherein a plurality of virtual

containers (i.e., minimum protection units) are simultaneously generated, interleaved with OSI Layer 2 data (Figure 11, 1100 and 1103), and subsequently transmitted across a synchronous network at the same time (Figure 11, 1104). Upon receipt, the payload bytes of each of the virtual containers is examined (Figures 18 and 19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the virtual container interleaving disclosed in Russell with the protection switching disclosed in Taniguchi in order to reduce transmission delay in a synchronous digital delay without further encapsulation in intermediate protocol layers (see column 2, lines 58-63 of Russell).

Response to Arguments

13. Applicant's arguments filed April 22, 2009 regarding rejection of Claims 1, 3, 5, and 7-9 under 35 U.S.C. 112, second paragraph, have been fully considered but they are not persuasive. Applicant states the amended claim language in Claims 1, 3, and 8 addresses the outstanding rejection. Examiner respectfully disagrees. The claim language in Claims 1 and 8 recites "dividing each optical port of each of the nodes in the fiber path into multiple minimum protection units," which is indefinite for the reasons articulated above. Rejection of Claims 1, 3, 5, and 7-9 under 35 U.S.C. 112, second paragraph, is therefore maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Chriss whose telephone number is (571)272-1774. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2416

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Chriss

Examiner

Art Unit 2416

5/19/2009

/A. C./

Examiner, Art Unit 2416

/William Trost/

Supervisory Patent Examiner, Art Unit 2416